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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/807,728	07/17/2001	Hakan I Karlsson	110014800/LB	6007

909 7590 07/31/2002

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EXAMINER

LEE, SHUN K

ART UNIT	PAPER NUMBER
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2878

DATE MAILED: 07/31/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/807,728

Applicant(s)

KARLSSON ET AL.

Examiner

Shun Lee

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 July 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 July 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 8. 6) ☐ Other: _____

DETAILED ACTION

National Stage Application

1. The Examiner acknowledges consideration of the International Preliminary Examination Report in International Application PCT/SE99/01878. MPEP § 1893.03(e).

Information Disclosure Statement

2. The listing of references in the specification is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609 A(1) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the references have been cited by the examiner on form PTO-892, they have not been considered.

Specification

3. The disclosure is objected to because of the following informalities: in line 9 on pg. 4, "34" should probably be --44--. Appropriate correction is required.
4. The incorporation of essential material in the specification by reference (first paragraph on pg. 6) to a foreign application or patent, or to a publication is improper. Applicant is required to amend the disclosure to include the material incorporated by reference. The amendment must be accompanied by an affidavit or declaration executed by the applicant, or a practitioner representing the applicant, stating that the amendatory material consists of the same material incorporated by reference in the referencing application. See *In re Hawkins*, 486 F.2d 569, 179 USPQ 157 (CCPA

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1973); *In re Hawkins*, 486 F.2d 579, 179 USPQ 163 (CCPA 1973); and *In re Hawkins*, 486 F.2d 577, 179 USPQ 167 (CCPA 1973).

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 3 and 5-10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 3 recites the limitation "the other limiting surface" in lines 1-2. There is insufficient antecedent basis for this limitation in the claim.

Claim 3 recites the limitation "the said one limiting surface" in line 3. There is insufficient antecedent basis for this limitation in the claim.

Claim 5 recites the limitation "the said one limiting surface" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Claim 6 recites the limitation "the other limiting surface" in lines 1-2. There is insufficient antecedent basis for this limitation in the claim.

Claim 7 recites the limitation "the inlet tube" in lines 1-2. There is insufficient antecedent basis for this limitation in the claim.

Claim 8 recites the limitation "said outer wall" in line 1. There is insufficient antecedent basis for this limitation in the claim.

Claim 8 recites the limitation "the piston cylinder" in line 3. There is insufficient antecedent basis for this limitation in the claim.

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Claim 9 recites the limitation "the said one limiting surface" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Claim 10 recites the limitation "the movable limiting surface" in lines 1-2. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

9. Claims 1, 3, 4, 5, 8, and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Coates (US 2,690,695) in view of Saunders (US 3,332,316) and Simms *et al.* (US 4,171,916).

In regard to claim 1, Coates discloses (Fig. 1) a device comprising a measuring cell (10) in which there is a measuring field (43) defined between two limiting surfaces

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and a means (21) of adjusting the width of the measuring field (43), that the limiting surfaces have two opposing, transparent sections (16, 23) that allow illumination through the flowing suspension passing through and measurement by optical means, and the measuring cell (10) having an inlet opening (44) intended for the whole of the suspension flow and an outlet opening (44) intended for the whole of the suspension flow. The device of Coates lacks that the inlet opening extends through one of the limiting surface and is used to measure fiber properties in a flowing suspension.

Saunders teaches (column 2, lines 45-50) to position a filling tube for a variable optical path length device in the window in order to avoid contact between the sample and cell members. Simms *et al.* teach (column 1, line 6 to column 2, line 9) it is known in the art to obtain optical measurements in order to determine consistency of a fiber suspension. Therefore it would have been obvious to one having ordinary skill in the art to position the inlet opening in the transparent section (*i.e.*, one of the limiting surfaces) in the device of Coates, in order to avoid contact between a sample and cell members and to obtain optical measurements in order to determine consistency of a fiber suspension.

In regard to claim 3 which is dependent on claim 1 in so far as understood, Coates also disclose (Figs. 1 and 3) that the periphery of the non-movable limiting surface (of window 16) extends to reach an outer wall (11, 12) of the measuring cell, and that a intermediate space occurs between the periphery of the movable limiting surface (of window 23) and the outer wall (11, 12) to form a peripheral field.

In regard to claim 4 which is dependent on claim 1, the device of Coates lacks an explicit description that the distance between the limiting surfaces is adjustable within

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the range of 0.5-5 mm. However, Coates also discloses (column 3, lines 56-58) that the thickness of the sample can be adjusted within the limits required. Simms *et al.* teach (column 4, lines 30-44) the thickness (W in Fig. 1) determine the range of consistency that can be measured. Therefore it would have been obvious to one having ordinary skill in the art to provide the necessary limits (e.g., 0.5-5 mm) in the device of Coates, in order to be able to measure a desired range of fiber suspension consistency.

In regard to claim 5 (which is dependent on claim 1 in so far as understood) and claim 9 (which is dependent on claim 1 in so far as understood), Coates also disclose (Figs. 1 and 3) that the measuring field have circular limiting surfaces. The device of Coates lacks that the inlet opening is positioned centrally with regard to the non-movable limiting surface to obtain a radial suspension flow, with a pressure that diminishes in a radial direction. Saunders teaches (column 2, lines 45-50) to position a filling tube for a variable optical path length device entirely within the window at any desired position in order to avoid contact between the sample and cell members. It should be noted that it is inherent that a centrally positioned inlet opening in a circular limiting surface has circular symmetry and thus the fluid flow out of the inlet opening has a radial flow (from circular symmetry), with a pressure that diminishes in a radial direction (from well known hydrodynamic considerations, *i.e.*, fluid flows from a high pressure region to a low pressure region). Therefore it would have been obvious to one having ordinary skill in the art to position centrally the inlet opening in the transparent section (*i.e.*, one of the limiting surfaces) in the device of Coates, in order to avoid contact between a sample and cell members.

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Applicant is advised that should claim 5 be found allowable, claim 9 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

In regard to claim 8 which is dependent on claim 1 in so far as understood, the device of Coates lacks that an outer wall of the measuring cell is provided with stop elements to limit the movement of a moveable limiting surface in an upper and a lower position. Coates also discloses (column 3, lines 56-58) that the thickness of the sample can be adjusted within the limits required. Simms *et al.* teach (column 4, lines 30-44) the thickness (W in Fig. 1) determine the range of consistency that can be measured. Therefore it would have been obvious to one having ordinary skill in the art to provide stop elements for the necessary limits in the device of Coates, in order to be able to measure a desired range of fiber suspension consistency.

10. Claims 2, 7, and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Coates (US 2,690,695) in view of Saunders (US 3,332,316) and Simms *et al.* (US 4,171,916) as applied to claim 1 above, and further in view of Renard *et al.* (US 4,837,446).

In regard to claim 2 which is dependent on claim 1, the modified device of Coates lacks that an inlet tube (42) for directing and stabilizing the suspension flow is connected to the inlet opening (38) and has a length that is greater than its width.

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Connections to flow cells are well known in the art. For example, Renard *et al.* teach (Fig.) that a tubing (14) is connected to the inlet of a flow cell (16) in order to provide the sample from a source (10) to the flow cell (16). It is inherent that the length of the tubing (14) is sufficiently long to connect the source (10) to the flow cell (16). Therefore it would have been obvious to one having ordinary skill in the art to provide a tube having a length that is greater than its width connected to the inlet opening in the modified device of Coates, in order to deliver a sample from a distant sample source.

In regard to claim 7 (which is dependent on claim 1 in so far as understood) and claim 11 (which is dependent on claim 2), the modified device of Coates lacks that the area (A_t) of the inlet tube across the direction of flow is greater than the area (A_m) of the measuring field across the direction of flow immediately after the inlet opening. Renard *et al.* teach (column 4, lines 18-28; Fig.) that the flow cell (16) is narrower than the tubing (14) and that the flow cell (16) should be narrow enough to insure flow of single fibers so as to enable measurement of single fibers. It should be noted that if R_t is the inner radius of the tube, w is measuring field width, and R_i is the radius of the inlet opening, then $w \ll R_t$, $A_t = \pi R_t^2$, and $A_m = 2\pi R_i w$. Since the tube is connected to the inlet opening, $R_t = R_i$ and $A_t < A_m$. Therefore it would have been obvious to one having ordinary skill in the art to provide a narrow width measuring field with the area of the inlet tube across the direction of flow is greater than the area of the measuring field across the direction of flow immediately after the inlet opening in the modified device of Coates, in order to insure a flow of single fibers so as to enable measurement of single fibers.

Allowabl Subj ct Matter

11. Claims 6 and 10 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Applicant is advised that should claim 6 be found allowable, claim 10 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

12. The following is a statement of reasons for the indication of allowable subject matter: the instant application is deemed to be directed to a nonobvious improvement over the invention patented in US Patent 2,690,695. The improvement comprises in combination with other recited elements, that a moveable limiting surface can rotate with the aid of a motor.

Conclusion

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shun Lee whose telephone number is (703) 308-4860. The examiner can normally be reached on Tuesday-Thursday.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank Font can be reached on (703) 308-4881. The fax phone numbers for

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the organization where this application or proceeding is assigned are (703) 872-9318 for regular communications and (703) 872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.



CONSTANTINE HANNAHER
PRIMARY EXAMINER
GROUP ART UNIT 2878

SL
July 24, 2002